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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of:)	
)	
Ki-Young LEE, et al.)	
)	Examiner: Paul E. Brock II
Serial No. 09/389,491)	
)	Group Art Unit: 2815
Filed: September 3, 1999)	
)	
For: Semiconductor Integrated Circuit)	
Capacitor and Method for)	
Fabricating Same)	

APPELLANT'S REPLY BRIEF UNDER 37 C.F.R. § 41.41

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA. 22313-1450

Further to the Examiner's Answer mailed November 15, 2004, the following remarks are respectfully submitted.

INTRODUCTION

Presently, claims 12, 14-24 and 26 are pending, and are the appealed claims. In the Office Action Made Final dated February 11, 2003, the Examiner rejected claims 12, 14-16, 18-22, 24 and 26 under 35 U.S.C. § 103(a) over U.S. Patent No. 6,166,423 to Gambino et al. ("the Gambino et al. reference") in view of U.S. Patent No. 5,534,461 to Kuwajima ("the Kuwajima reference"), rejected claim 17 under 35 U.S.C. § 103(a) over the Gambino et al. reference in view of the Kuwajima reference, further in view of U.S. Patent No. 6,074,907 to Oh et al. ("the Oh et al. reference"), and rejected claim 23 over the Gambino et al. reference in view of the Kuwajima reference, further in view of U.S. Patent No. 6,066,555 to Nulty et al. ("the Nulty et al. reference"). Claim 12 is the sole independent claim.

The Examiner's acknowledgement of the accuracy of the Appellant's factual assertions set forth in the Appeal Brief filed February 23, 2004, is appreciated. However, it is noted that, regarding the grouping of claims, claims 12, 14-24 and 26 were indicated in the Appeal Brief as standing or falling together.

Response to Arguments in Examiner's Answer

In the response to arguments section of the Examiner's Answer, the Examiner now correctly notes that the Kuwajima reference does not disclose or suggest the problem of dielectric disconnection as described in the subject application. *Examiner's Answer of November 15, 2004, p. 13.* The Examiner then notes that the motivation for the etch back process in the Kuwajima reference is to form wiring layers having desirable characteristics. *Examiner's Answer of November 15, 2004, p. 15.* As noted in the Kuwajima reference, the sidewalls of tungsten remaining after etch back in the larger contact hole reduce the step of the larger contact hole. However, in the embodiment shown in Figures 21-28, the Gambino et al. reference discloses leaving the tungsten in the larger contact hole 320, forming the insulating layer 322, providing another conductive material 370 to fill the larger contact hole, and then planarizing the resultant structure. This embodiment thus reduces the step of the larger contact hole and simplifies the manufacturing process. It is not clear why one of ordinary skill in the art, absent the teachings of the present invention, would be motivated to use the more complicated etch back process in the Kuwajima reference to reduce the step of the larger contact hole, when the process of Figures 21-28 of the Gambino et al. reference already provides this reduction.

Therefore, it is respectfully submitted that there is no motivation to replace the simplified, step reducing method of the Gambino et al. reference with the complicated etch back process of the Kuwajima reference. Therefore, claims 12, 14-16, 18-22, 24 and 26 are believed to be patentably distinguished over the cited prior art references and in condition for allowance.

Accordingly, favorable action by the Board on claims 12, 14-16, 18-22, 24 and 26 is respectfully requested.

The Oh et al. reference further applied against claim 17 and the Nulty et al. reference further applied against claim 23 also fail to provide the teachings noted above as missing from the combination of the Gambino et al. reference and the Kuwajima reference. Accordingly, the rejections of claims 17 and 23 are traversed, and favorable action by the Board on claims 17 and 23 is respectfully requested.

Conclusion

Applicants submit that claims 12, 14-24 and 26 are in condition for allowance, and a notice to such effect is respectfully requested.

Respectfully submitted,

LEE, STERBA & MORSE, P.C.

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**PETITION and
DEPOSIT ACCOUNT CHARGE AUTHORIZATION**

This document and any concurrently filed papers are believed to be timely. Should any extension of the term be required, applicant hereby petitions the Director for such extension and requests that any applicable petition fee be charged to Deposit Account No. 50-1645.

If fee payment is enclosed, this amount is believed to be correct. However, the Director is hereby authorized to charge any deficiency or credit any overpayment to Deposit Account No. 50-1645.

Any additional fee(s) necessary to effect the proper and timely filing of the accompanying papers may also be charged to Deposit Account No. 50-1645.